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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/555,349	08/01/2000	THOMAS F. TEDDER	180/95/PCT/U	1602

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EXAMINER

LI, QIAN J

ART UNIT

PAPER NUMBER

1632

DATE MAILED: 02/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/555,349

Applicant(s)

TEDDER, THOMAS F.

Examiner

Q. Janice Li

Art Unit

1632

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29 and 30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 29 and 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 18 January 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☒ Interview Summary (PTO-413) Paper No(s). 22.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

The amendment after final rejection filed on January 17, 2003 has been entered and assigned as Paper No. 23. In paper #23, the applicant indicated that claim 2 is no longer pending in the application. However, claim 2 is still pending in the application because although the applicant requests to cancel claim 2 in view of the amendment to claim 1 in paper #20, the amendment has not been entered for paper #20. Therefore, claim 2 has not in fact been canceled. For purpose of compact prosecution, claim 2 has been treated as canceled. The applicant is required to confirm the cancellation in response to this Office action.

Claims 1-5 and 7 have been canceled. Claims 29 and 30 are pending in the application and have been indicated previously as allowable. However, in view of the newfound prior art, the Finality is withdrawn in view of new grounds of rejection, the prosecution is hereby REOPENED.

Specification

This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Engel et al* (Immunity 1995;3:39-50), in view of *Nielsen et al* (EMBO J 1983;2:115-9).

These claims are drawn to a method for producing a monoclonal antibody specific for an antigen, comprising (a) immunizing a transgenic mouse with an antigen to permit the antibody producing cells to produce antibody to the antigen, wherein said transgenic mouse over-expressing CD19 and having antibody-producing cells with disrupted peripheral tolerance; (b) removing a portion of said antibody-producing cells from the mouse; (c) forming a hybridoma capable of producing a monoclonal antibody to the antigen; (b) propagating the hybridoma; and (e) harvesting the monoclonal antibodies, wherein the produced antibodies have an affinity constant of greater than $1 \times 10^5 \text{ L/mol}$ for the antigen.

Engel et al teach immunizing a CD19 transgenic mice overexpressing CD19 with an antigen DNP-KLH (step a, page 43, right column). They teach that hCD19 transgenic mice had an overall increase in serum immunoglobulin levels (figure 6B, having antibody-producing cells with disrupted peripheral tolerance). They go on to teach that overexpression of CD19 appears to render B cells more susceptible to differentiation induction (page 44, 2nd paragraph). The data in table 2 show that the levels of isotype IgG2a and IgG2b antibodies are particularly higher in the hCD19 transgenic mice

compared to the wild type controls. *Engel et al* do not teach the process recited in steps (b) to (e) or specific affinity constant of the antibodies.

Nielsen et al teach a method of making monoclonal antibody to an antigen (abstract and pages 118-119) comprising obtaining antibody-producing cells (spleen cells) from immunized mice (steps a+b) and fusing them with human melanoma cells (immortalizing cell) to form a hybridoma (steps c+d), which produced antibodies to an antigen (step e) and obtained antibodies having an affinity constant of greater than $1 \times 10^5 \text{L/mol}$ ($2.5 \times 10^9 \text{L/mol}$).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the methods taught by *Engel et al* and *Nielsen et al*, by simply substituting a wild type mice with a CD19 transgenic mice for immunization and proceeding subsequent routine procedures of monoclonal antibody production with a reasonable expectation of success. The ordinary skilled artisan would have been motivated to modify the claimed invention because the CD19TG mice could produce higher levels of antibodies, particularly when the desired isotypes of the antibodies are IgG2a, 2b, and IgM. Thus, the claimed invention as a whole was *prima facie* obvious in the absence of evidence to the contrary.

Conclusion

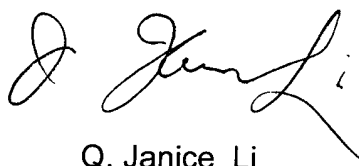
No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Q. Janice Li whose telephone number is 703-308-7942. The examiner can normally be reached on 8:30 am - 5 p.m., Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah J. Reynolds can be reached on 703-305-4051. The fax numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9307 for After Final communications.

Any inquiry of formal matters can be directed to the patent analyst, Dianiece Jacobs, whose telephone number is (703) 305-3388.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1235. The faxing of such papers must conform to the notice published in the Official Gazette 1096 OG 30 (November 15, 1989).

A handwritten signature in black ink, appearing to read 'Q. Janice Li', with a stylized flourish at the end.

Q. Janice Li
Examiner
Art Unit 1632

QJL
February 7, 2003